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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/712,329	11/13/2003	Stanley W. Stephenson III	87312KNM	1952

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EXAMINER	
LAO, LUN YI	

ART UNIT	PAPER NUMBER
2629	

DATE MAILED: 07/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/712,329	STEPHENSON, STANLEY W.	
	Examiner	Art Unit	
	LUN-YI LAO	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *13 November 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *4/15/2005*, 11/13/2003
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1-14 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-33 of U.S. Patent No. 6,885,409 in view of Yoshinaga(5,272,552), Comparing these two cases as below:

10/712,329(claim 1)	**6,885,409(claims 1 and 6)**
A display writer for writing on a light writable display having a layer of cholesteric liquid crystal material disposed between two conductors, the cholesteric	A display system comprising a display arrange to receive an image wise pattern of light to form an image, including a pair of conductors, a layer of cholesteric liquid crystal material disposed between the

liquid crystal material having multiple stable optical states at zero electrical field; and a light absorber for forming an image wise thermal pattern in the cholesteric liquid crystal sufficient to change the optical state of the cholesteric liquid crystal in response to an image wise pattern of light;	conductors, the cholesteric liquid crystal material having multiple stable optical states at zero electrical field, and a light absorber for forming an image wise thermal pattern in the cholesteric liquid crystal sufficient to change the optical state of the cholesteric liquid crystal in response to an image wise pattern of light;
The display writer comprising: a)a flash lamp; b) a reflective light modulator; c) optics for directing the image wise modulated light onto the light writable display;	A display writer, including a light source for producing a flash of light of sufficient intensity to generate sufficient heat in the light absorber to change the optical state of the cholesteric liquid crystal;
Means for applying an electrical field to the conductors of the display in conjunction with activation of the flash lamp.	The controller controls the light source and the display drive to form the image in the presence of a first field.

Stephenson et al(6,885,409) fail to disclose a reflective light modulator and optics for directing the image wise modulated light onto the light writable display.

Yoshinaga et al teach a display writer system comprising a reflective light modulator(9-11) and optics(13) for directing the image wise modulated light onto the light writable(recording) display(see figures 1, 5, 7; abstract; column 41, lines 38-45 and column 45, lines 33-44). It would have been obvious to have modified Stephenson et al with the teaching of Yoshinaga et al, so as to provide a writable display having a high contrast and first recording and erasure speeds(see column 2, lines 31-36).

3. Claims 1-14 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-45 of

copending Application Publication No. US 2005/0151887(Stephenson et al in view of Yoshinaga et al(5,272,552).

Stephenson et al(US 2005/0151887) teaches a display writer for writing on a light writable display having a layer of cholesteric liquid crystal material disposed between two conductors, the cholesteric liquid crystal material having multiple stable optical states at zero electrical field; and a light absorber for forming an image wise thermal pattern in the cholesteric liquid crystal sufficient to change the optical state of the cholesteric liquid crystal in response to an image wise pattern of light and means for applying an electrical field to the conductors of the display in conjunction with activation of the flash lamp(see claims 1-45).

Stephenson et al(US 2005/0151887) fail to disclose a reflective light modulator and optics for directing the image wise modulated light onto the light writable display.

Yoshinaga et al teach a display writer system comprising a reflective light modulator(9-11) and optics(13) for directing the image wise modulated light onto the light writable(recording) display(see figures 1, 5, 7; abstract; column 41, lines 38-45 and column 45, lines 33-44). It would have been obvious to have modified Stephenson et al with the teaching of Yoshinaga et al, so as to provide a writable display having a high contrast and first recording and erasure speeds(see column 2, lines 31-36).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stephenson et al(6,423,368) in view of Yoshinaga et al(5,272,552).

As to claims 1 and 8, Stephenson et al teach a display writer for writing on a light writable display having a layer of cholesteric liquid crystal material(30, cholesteric liquid crystal)(see figures 2A-3, 5, 8A, 8B; column 2, lines 24-36; column 5, lines 55-65 and column 6, lines 12-21) disposed between two conductors(20, 22)(see figures 8A-8B and column 8, lines 41-45), the cholesteric liquid crystal material(30) having multiple stable optical states(a planar state(72) or focal-conic state(74) at zero electrical field(see figures 5A, 5B; column 1, lines 61-68 and column 6, lines 12-35); and a light absorber(70) for forming an image thermal pattern(heating) in the cholesteric liquid crystal sufficient to change the optical state of the cholesteric liquid crystal in response to a light(40)(see figures 2A-3, 5, 8A-8B; column 4, lines 35-46; column 6, lines 59-68; column 7, lines 1-9 and column 8, lines 1-12). Stephenson et al teach a display writer

comprising means for applying electrical field(E) to the conductors(20, 22) of the display(10)(see figure 8B; column 8, lines 1-12 and lines 41-52).

Stephenson et al fail to disclose a flash lamp, a reflective light modular and optics.

Yoshinaga et al teach a display writer a display writer for writing on a light writable display having a layer of cholesteric liquid crystal material(see figures 1, 5, 7; column 1, lines 25-39; column 2, lines 40-68; column 3, lines 20-43 and column 4, lines 1-2) disposed between two conductors(2, 5, or 25, 26)(see figures 1, 5-7 and column 41, lines 38-53). Yoshinaga et al teach a display writer comprising a light absorber(32 or 37)(see figures 6-7; column 39, lines 30-33; column 42, lines 16-48 and column 43, lines 28-36); a flash lamp(7 or 22 , laser light, see figures 1, 5; column 41, lines 38-59 and column 45, lines 36-40); a reflective light modulator(9-11) for modulating light from the flash lamp(7) an image wise pattern; optics(8, 13, 24) for directing the image wise modulated light onto the light writable display(1-5)(see figures 1, 5, 7; column 41, lines 38-59; column 45, lines 33-68 and column 46, lines 21-37) and means for applying electrical field(15) to the conductors(2, 5) of the display(1-5)(see figure 1 and column 41, lines 38-45). It would have been obvious to have modified Stephenson et al with the teaching of Yoshinaga et al, so as to provide a writable display having a high contrast and first recording and erasure speeds(see column 2, lines 31-36) and a gradational display could be effected relatively easily(see column 41, lines 15-19).

6. Claims 2, 4-7, 9 and 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stephenson et al(6,423,368) in view of Yoshinaga et al(5,272,552) and Anderson et al(EP 0,795,771):

As to claims 2, 4-7, 9 and 11-14, Stephenson et al fail to disclose the flash lamp is a short arc flash lamp and a digital micro-mirror light modulator.

Anderson et al teaches a display writer comprising the flash lamp is a short arc(curved) flash lamp(32) and a digital micro-mirror light modulator(18 or 110)(see figures 1-3, 8; column 7, lines 25-30 and column 13, lines 37-44). It would have been obvious to have modified Stephenson et al as modified with the teaching of Anderson et al, so as to increase the optical efficiency of the system by using the digital micro-mirror(see column 1, lines 57-68 and column 2, lines 1-2).

As to claims 2 and 9, it would have been obvious to have a flash lamp with an arc less than 3mm since Anderson et al teach a flash lamp(32) could be a curved or linear array of light source(see figures 2-3, 8 and column 13, lines 46).

As to claims 4 and 11, Stephenson et al as modified teach the optics(8, 13) having collimating optics(8) between the flash lamp(7) and the reflective light modulator(9-11) and projection optics(13) between the digital micro-mirror light modulator and the display(1-5)(see figure 1 and column 41, lines 38-45).

As to claims 5-7 and 12-14, Stephenson et al teach the optics transmit both visible and infra red light(see Anderson's column 13, lines 37-41).

7. Claims 3-7 and 10-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stephenson et al(6,423,368) in view of Yoshinaga et al(5,272,552) and Huang et al (5,467,146).

As to claims 3-7 and 10-14, Stephenson et al as modified fail to disclose a flash lamp with a reflector and a digital micro-mirror light modulator.

Huang et al teach a display system comprising a flash lamp(16, 21) with a reflector (21) and a digital micro-mirror light modulator(15)(see figures 1-2 and column 3, lines 35-57). It would have been obvious to have modified Stephenson et al as modified with the teaching of Huang et al, so the a flash lamp need not be directly toward to the light modulator and so as to increase the optical efficiency of the system by using the digital micro-mirror.

As to claims 5-7 and 12-14, Stephenson et al teach the optics transmit both visible(red, green, blue or white) and infra red light(see Stephenson's figure 1; Huang's column 1, lines 30-37 and column 3, lines 22-34).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Harada et al(6,392,725) teach a display writing system comprising a image writing apparatus(20).

Anderson(5,997,150) teach a display system having a light source(14).

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lun-yi Lao whose telephone number is 571-272-7671. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on 571-272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

June 22, 2006

Lun-yi Lao
Primary Examiner